

b.—PATHOLOGY OF THE NERVOUS SYSTEM AND MIND AND PATHOLOGICAL ANATOMY.

THE PATHOLOGY AND TREATMENT OF HERPES ZOSTER.—The following are the conclusions of a recent article by Dr. L. Duncan Bulkley, *Am. Journal of Medical Sciences*, July, on the pathology and treatment of herpes zoster.

1. Whatever may be the cause of the nerve irritation, herpes zoster is always of nerve origin, that is, it is an inflammatory lesion of the skin wherein the local cell action, resulting in the production of vesicles, is but a result of nerve influence, a perverted cell action caused by perverted innervation.

2. From the almost constant changes found in the ganglia, developed on the posterior or sensitive roots of the spinal nerves of the afflicted regions, we must infer that the trophic changes observed in the skin have to do with the sensitive nerves, which marks a certain advance in the study of the physiological relations of the trophic nerves, or nerves of nutrition.

3. We are not to conclude, however, that zoster is the result of inflammation of the sensitive ganglia alone, for the entire nerve on the distal side of the ganglion has been always found to be inflamed, and abundant proof exists of eruptions of zoster due to various nerve lesions, peripheral and central injuries, and disease of the transmitting nerves, and of the cord and the encephalon.

4. In certain cases the origin may be shown to be idiopathic inflammation of conducting nerves (as in Kaposi's case), or they may be affected by pressure, or other alteration caused by the presence of a tumor, or the disease may be the result of surgical or other injury.

5. The origin, therefore, of herpes zoster is a direct nerve irritation and inflammation, and in ordinary, apparently idiopathic cases, the explanation of this is to be sought for in the same causes as give rise to neuralgias in general, some of which are traceable, many are not. The gouty habit, inducing neuralgia, can likewise give occasion to herpes; the direct exposure to cold, of the terminal branches of a nerve, as in the head and neck or elsewhere, can cause painful excitation of the nerve itself, or neuralgia, and is equally a cause of zoster; malaria can originate neuralgia, and may not therefore, some of the cases of zona be due to a malarial influence? certainly the prompt action of citrate of iron and quinia, in some cases, might point to a malarial element.

6. In considering then, the true nature of herpes zoster, we are rather led away from the skin lesion to the antecedent neuritis, whose manifestations are neuralgia, more or less marked, and disturbances of sensation

in the area of nerve distribution, represented by hyperalgesia, hyperæsthesia, and anæsthesia, while at the same time, other results of nerve disturbance may occur, as paralysis of muscles, trophic alterations in the tissues, and even necrosis and separation of bone. In other words, the eruption of zoster is an epiphenomenon to a primary neuritis and neuralgia.

7. The clinical history and therapeutics of herpes zoster, are in themselves almost convincing proofs of the neurotic nature of the disease. In most cases, especially in younger patients, the treatment is purely expectative, while in severe cases and in elderly persons, the neuralgia is the principal element requiring attention, and this is remedied by measures directed to the nervous system. In the majority of instances, the nerve irritation, or nerve inflammation subsides spontaneously, the whole train of morbid phenomena occupying about the same length of time taken by other self limited inflammations, as pneumonia and erysipelas, while under certain circumstances the *sequela*, require attention, as in other diseases. The local destruction of tissue is sometimes a troublesome feature in the way of ulceration or necrosis of the skin, or the neuralgia persists to a distressing degree, even under the most intelligent treatment.

8. Three therapeutic agents seem to have marked control over herpes zoster, whose cutaneous manifestations, as well as painful element they appear to arrest. First, phosphorus, which, used in the form of phosphide of zinc, one-third of a grain of extract of nux vomica, every three hours, will certainly abort the disease if given early, as recommended by Dr. Ashburton Thompson. I should presume that the tincture of phosphorus, or what is known as Thompson's solution of phosphorus, as now used so successfully for neuralgias, would have the same effect. I have not tried them in this disease, but have used the phosphide repeatedly and with most excellent results. Second, electricity: the galvanic current passed directly through the affected nerves, their trunks and peripheral distributions, will have the effect of causing the eruption either to abort if used early, or will make the newly formed vesicles dry up much sooner than otherwise, and will pretty certainly check the pain. Third, quinia, with iron, will, I think, if pushed early in the disease, shorten the duration much, and relieve many unpleasant symptoms.

Whether ergot, which has been of great service in neuralgia in the hands of some, would check this congestive neurosis, I cannot say, but should hope much from it. The hypodermic injection of morphia, as we know, relieves the neuralgias, and if used early and repeatedly, might abort the disease by checking the nerve irritation, especially, if conjoined with atropia. Painting the surface with collodion or colloid coating containing morphia, would serve the same purpose; some assert that it is a very valuable measure. Ordinarily, the only local treatment required is protection of the inflamed surface, and this is best accomplished by powdering it with starch, and keeping a single thickness of muslin firmly applied and left on until the vesicles are dried.

THE DIAGNOSIS OF AUDITORY VERTIGO.—At the meeting of the Medical Section of the British Medical Association, at Sheffield, Aug. 4, Dr. W. R. Gowers read a paper on auditory vertigo, of which the following abstract is given in the *Brit. Med. Journal*, Aug. 26, 1876:

The form of vertigo which depends on an affection of the organ of hearing, has very little apparent connection with its cause, and frequently has so obtrusive an association with the *gastric* functions, that the real nature of these cases is constantly misconceived by the sufferers, and frequently by our own profession. There are several ways in which the stomach symptoms obscure the real nature of the affection. The paroxysms of vertigo commonly lead to vomiting. Sometimes they cause only an attack of dyspepsia, to which the giddiness is thought to be due. But, further, so intimate are the mutual action and reaction of the pneumogastric and equilibrium nerves and centres, that in the subjects of "auditory vertigo" a paroxysm, quite special in form, may be excited by a primary gastric disturbance, to which the whole trouble is naturally ascribed. The subjects of auditory vertigo, besides their acute paroxysms, are usually liable to slighter, but more continuous sense of disturbed equilibrium, taking the form, not of a definite movement, but merely of vague instability, and this is in constant relation to the gastric function. The slightest stomach disturbance at once excites the feeling, and careful dietetic management is necessary to keep the patient free from it. Among the points to be especially attended to in diagnosing auditory from pure gastric vertigo, are the following. The occurrence of intense paroxysms of vertigo, especially if repeated, is in favor of their labyrinthine origin. In many forms of vertigo, paroxysms occur, but in none so intense as in this form. The character of the sensation is of great significance. When purely gastric, it is usually indefinite; and labyrinthine vertigo is usually definite. There is a sense of movement in a certain direction usually uniform. Often there is actual movement. Lastly, evidence is usually to be obtained of affection of the auditory nerve or apparatus—unilateral, or greater on one side than the other—tinnitus and deafness. The deafness may be to atmospheric vibrations, or to those conducted through the skull. The latter, a well known symptom of labyrinthine disease, is of great service in the diagnosis of auditory vertigo. Two illustrative cases were narrated. In the first, characteristic auditory vertigo co-existed with some other affection of cranial nerves, interference with smell and taste, etc. The patient suffered also, from chronic ulcer of the stomach, and the gastric disturbance excited paroxysms of vertigo. The patient always fell to the right and backwards, and the right ear alone presented perverted functions, although the special gastric association in this case, was accidental, the confusion in diagnosis to which it gave rise, was typical, and was only cleared by careful investigation of the form of the vertigo. In the second case, a gentleman, aged 35, suffered from slight dizziness, with dyspeptic symptoms, to which he ascribed it. On examination, however, there was clear evidence of labyrinthine mischief, and a history of paroxysms of vertigo most characteristic in form. In these, he fell to the right, the

auditory affection being on the left side. He fell with such violence as to knock down a friend who was on his right side. In other attacks, objects seemed to move from the right, although he did not fall. One severe paroxysm was excited by a hearty meal after long fasting. The paper concluded with some remarks on the diagnosis of the severer paroxysms from slight apoplectic seizures and from attacks of *petit mal*.

ELECTRO-CUTANEOUS SENSIBILITY IN RHEUMATISM.—Belin, *Protokoll.d. ges. russ. Aerzte in Moskow*, No. 13, 1875, (Abstr. in *St. Petersb. Med. Wochenschr.*) May 15 (27), 1876. It had been noticed for some time by the author that in articular rheumatism the electric sensibility of the affected parts was diminished, and his attention was especially directed to the fact by the publication of the same observation by Drosdorff (*Centralbl.*, Apr. 1875) as noticed in Prof. Botkin's clinic. Hence he investigated over fifty cases in relation to this point, and came to the following conclusions:

In acute articular rheumatism, the electro-cutaneous sensibility in the affected joints is diminished, the degree of diminution varying with the severity of the affection; in most cases this symptom indeed precedes that of pain.

In muscular rheumatism and rheumatic inflammation (?) the same phenomena are met with, but not invariably in chronic cases of muscular rheumatism:

The author found relief of the pain following for five to eight hours the use of the induction current. He thinks the explanation of this decrease of electric sensibility may be found in the negative variation of the current, from the analogy of the observation, that the electric nerve current is diminished by increase of the vital processes (inflammation).

THE EFFECTS OF PERIPHERAL LESIONS ON THE CONVOLUTIONS OF THE BRAIN.—M. Luys, at the session of the Soc. de Biologie, July 8, (rep. in *Le Progres Médical*) gave an account of some observations made by himself on the effects of certain peripheral lesions on the conformation of the cerebral convolutions. He had observed from cases tending to prove that when the sensibility of a region was suppressed for a long period, it produced resorptions of tissue in the brain; and in certain definite points.

In the first case, a woman who died twenty years after having undergone amputation of the right limb, M. Luys found a notable atrophy of the left ascending frontal convolution. The atrophic process had even extended as far as the corresponding region on the right side, by way of the commissural fibres of the corpus callosum.

In a woman who had been absolutely deaf for forty years, M. Luys found, besides atrophy of the acoustic and glosso-pharyngeal nerves, a very abnormal arrangement at the horizon of the ascending convolutions. The fissure of Rolando was filled at one point, by a kind of bridge of brain substance, thrown across between the convolutions.

The third case was a woman amaurotic for twelve years. At the level of the two first frontals, there were little superficial ulcerations of the cerebral substance. Lastly in a woman aged twenty-nine, who had been unable to move on account of chronic rheumatism, M. Luys observed a very well-marked deformity of the folds of the ascending parietal.